Cover

Swiss Army

No. 65334 f

Rifle, Model 55 With Telescopic Sights

(Mq lu 55)

Arsenal Instructions

Valid as of 1 Dec 1967

Inside Cover and Title Page

Distribution

a. Personnel:

- To repair officers of troops equipped with the K-55
- To sof? Gunsmiths of troops equipped with the K-55
- To gunsmiths of troops equipped with the K-55
- To sof? Gunsmiths and gunsmiths trained to service the K-55 and assigned to the instruction (training) corps.

b. Command Archives

- Infantry Service	2 Copies
- Mechanized and Light Infantry Service	2 Copies
- Technical Military Service And weapons factory	10 Copies
- War Material Superintendent	2 Copies
- Arsenals	150 Copies
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II

Note

All communication and request for information from gunsmiths concerning weapon maintenance (service) should be directed to the unit commander.

He will then send the request through service channels to:

Command
Gunsmiths School
3048 Worblaufen

Table of Contents

	Page
A. Introduction	1
1. Overview	2
2. Technical Data	2
B. Knowledge and construction of the weapon	3
1. The Weapon	3
2. Differences between the bolt parts of the K31 and K55	7
3. Accessories	11
C. Scoped Rifle Operation	13
1. Overview	13
2. Loading	13
3. Reloading	13
4. Removing the cartridges	14
5. Inspection	14
D. Scoped Rifle Assembly and Disassembly	15
1. Minor disassembly	15
2. Major disassembly	18
3. The Magazine	20
E. Maintenance	21
I. Overview	21
II. Cleaning	22
III. Grease (lubrication) instructions	24
IV. Cold Weather Maintenance	24
F. Understanding of Rifle Function	25
I. Locking and unlocking the bolt	25
1. Locking	25
2. Unlocking	26
II. Trigger mechanism and weapon discharge	27
1. Start position	27
2. Stop position	28
3. Position after discharge	29
III. Safety	30
G. Detailed instructions for replacing parts and Restoring to working condition	31
1. Trigger mechanism	31
2. Bolt Stop	32
3. Rear Sight	33
H. Inspection and adjustments	35
1. Overview	35
2. Function Testing	35
3. Stop adjustment	37
4. Special adjustments	39

III.

J. Sight (shot) adjustment
1. Overview 41
2. Shot adjustment using rear and front sights 41
3. Method for making an adjustment shot 41
4. Scope fitting 42
5. Corrections 44
K. Malfunctions and repairs 45
1. Overview 45
2. How to proceed when a malfunction occurs 45
3. Feeding malfunction 45
4. Firing malfunction 45
5. Ejection malfunction 46
6. Specific malfunctions 46
L. Safety Instructions 49
M. Final Provisions 50

1.
Procedures of the Chief of Training concerning: Rifle, Model 55 With Telescopic Sights (of 9 June 1967)

Per article 5 1st line letter C of the Federal Military Department decision of 11 December 1961 concerning the transmission of service instructions.

A. Introduction

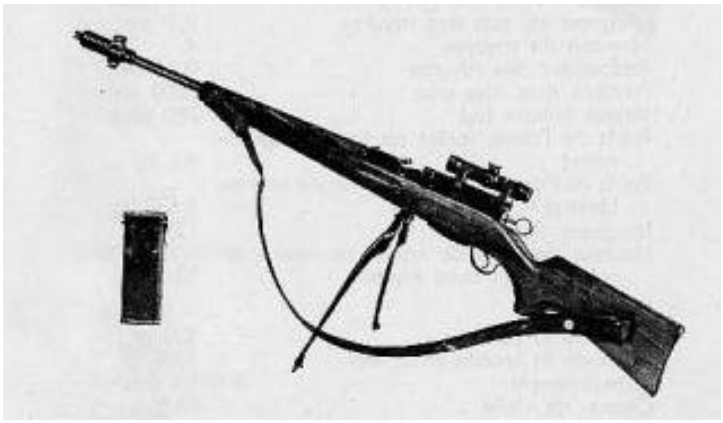


Fig. 1
Rifle, Model 55 With Telescopic Sights

1. Overview

The Rifle, Model 55 With Telescopic Sights is a weapon intended for the elite shooter. It is a repeating weapon in which the bolt is locked at the precise moment of discharge. In the hands of a good shooter, it is capable of destruction, using few cartridges, up to distances of 500 to 600 meters, of targets isolated and not easily visible to the naked eye or in dim lighting conditions.
The scope not only facilitates sight, but also permits observation of the target area.
Thanks to good optics, an enlarged visual field and the stability of the weapon (bipod, muzzle brake, weight of the weapon) we may observe the arrival of the shot on target.
The scope is removable.
It is possible to mount a bayonet on the barrel. It is also possible to aim using the front and rear sights up to a distance of 800 meters with the scope in place.

2. Technical Data

a. The Weapon

Caliber	7.5mm
Length of Rifling	270 mm
Number of Riflings	4
Depth of Rifling	0.14mm
Max Chamber Pressure	3200 atm.
Muzzle Velocity	780 m/sec
Weight (ready to fire, without bayonet)	6.1 kg
Weight (not loaded, without scope)	5.53 kg
Overall Length	121 cm
Height of the barrel axis above ground level with bipod	32 cm

b. Scope

Weight	520 gr
Weight (with case)	1050 gr
Magnification	3.5X
Field of view	75% o
Drift correction	?15% o
Adjustable Range	0-800m
View adjustment	?2 diopters

B. Knowledge and construction of the weapon

1. The Weapon

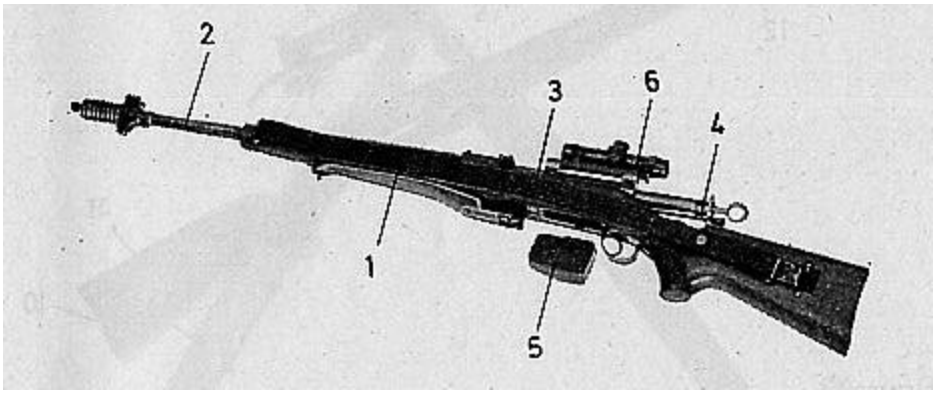


Figure 2

Primary Parts

1. Stock
2. Barrel
3. Receiver
4. Bolt
5. Magazine
6. Scope

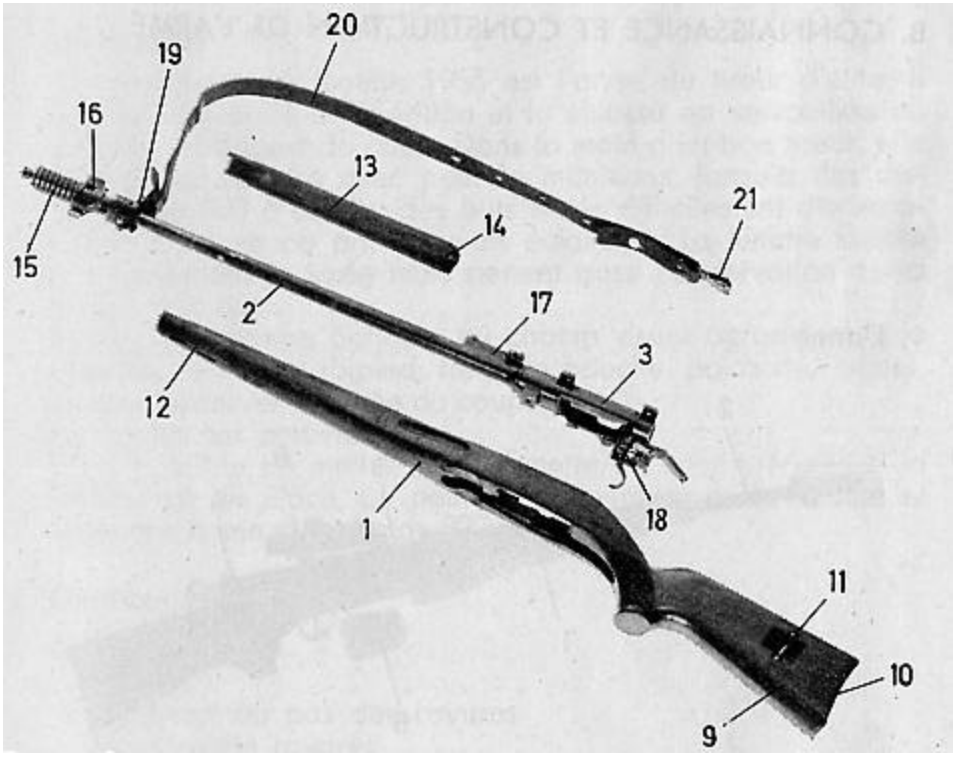


Figure 3

Weapon parts

1. Stock
2. Barrel
3. Receiver
9. Butt
10. Butt Plate
11. Sling Retainer
12. Sling Loop Spring
13. Hand Guard
14. Ferrule
15. Muzzle Brake
16. Sight Mounting
17. Rear Sight
18. Trigger Mechanism
19. Sling Loop
20. Sling
21. Sling Swivel

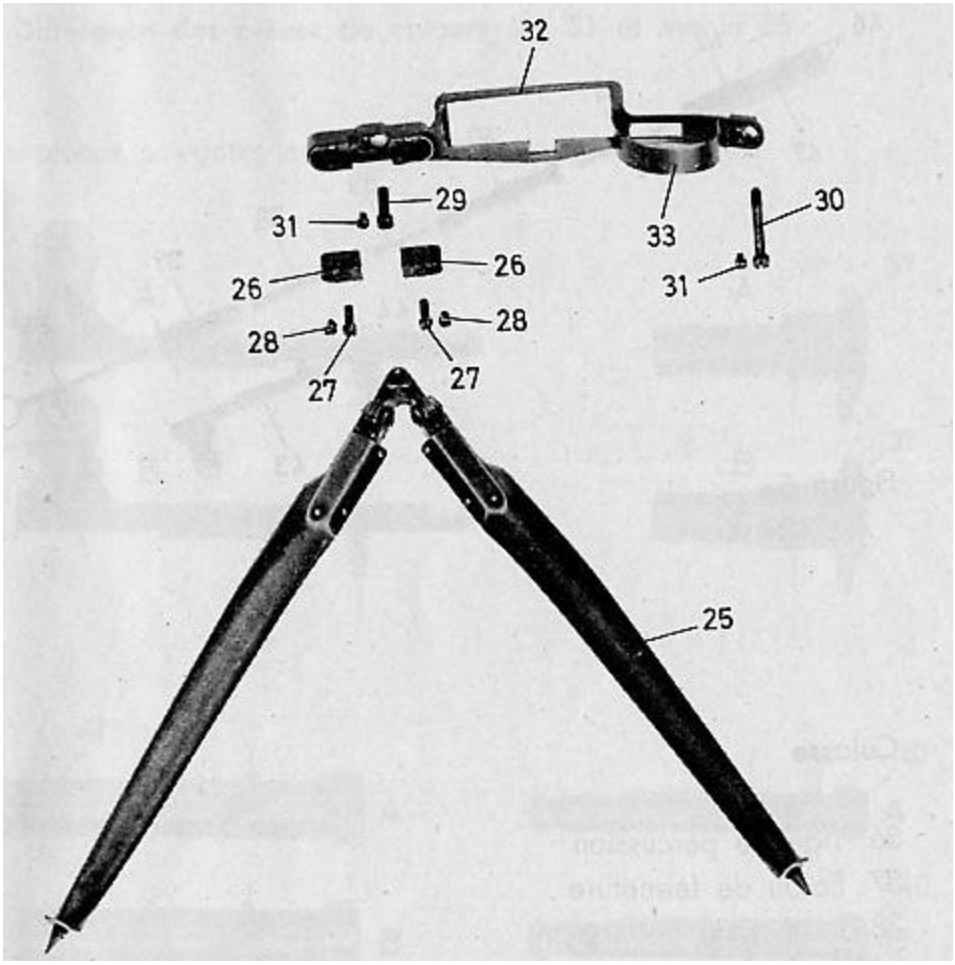


Figure 4

Bipod with Fixtures

25. Bipod
26. Bipod Fixtures
27. Tightening Screw
28. Locking Screw (for tightening screw)
29. Forward Magazine plate screw
30. Aft Magazine plate screw
31. Locking Screw (for plate screws)
32. Magazine Plate
33. Trigger Guard

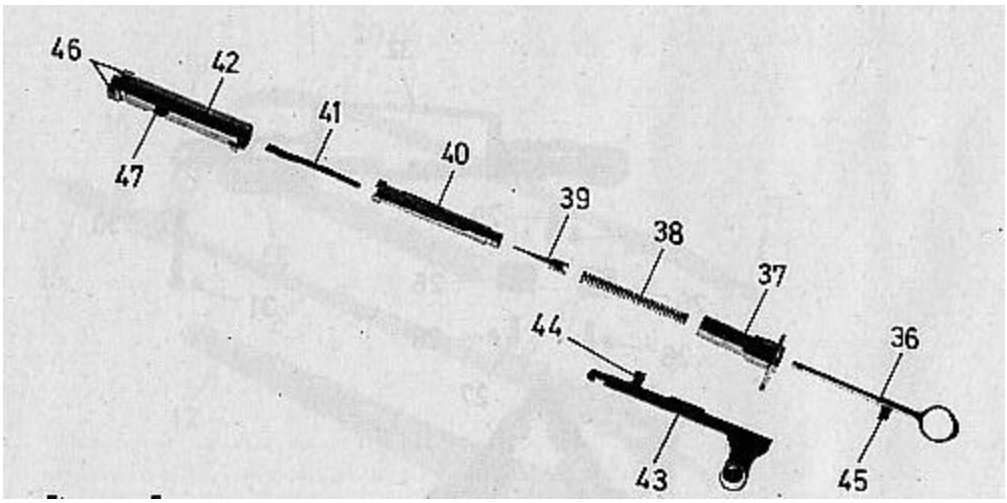


Figure 5

Bolt

36. Cocking piece
37. Bolt plug
38. Firing Pin Spring
39. Firing Pin
40. Cylinder
41. Extractor
42. Locking Sleeve
43. Bolt cam follower
44. Lock pin
45. Cocking piece sear
46. Locking Lugs
47. Helical Slot

2. Differences between the bolt parts of the K31 and K55

The following parts cannot be interchanged

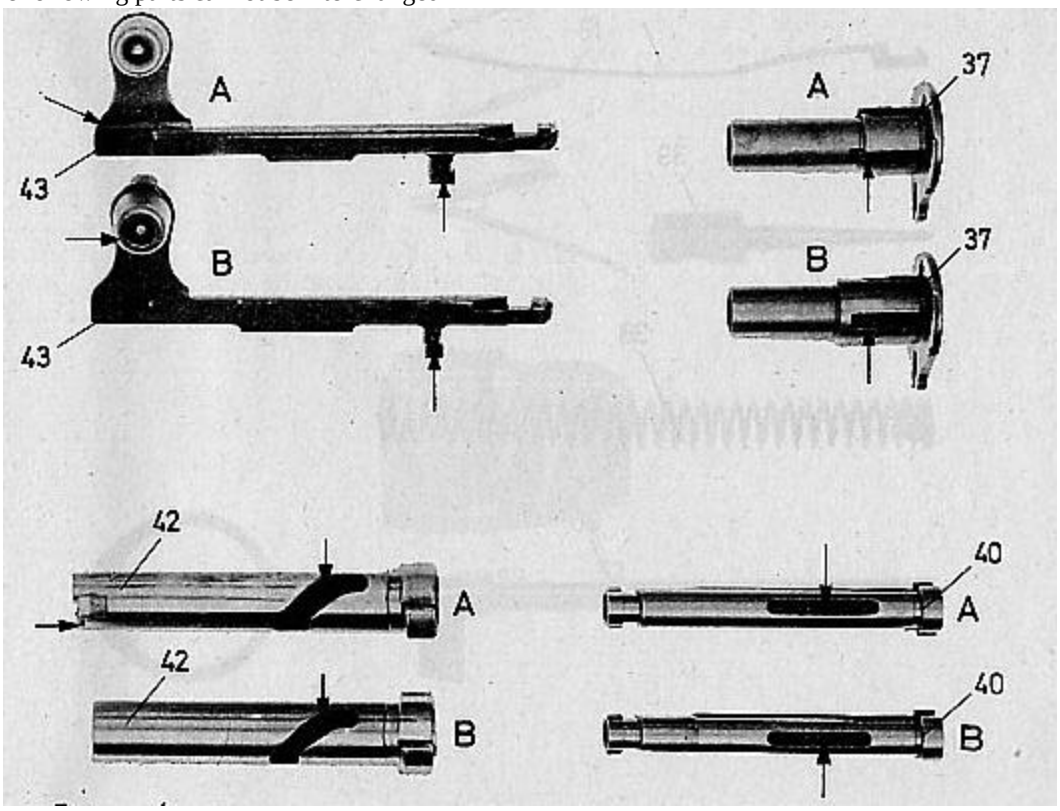


Figure 6

Bolt Parts

A. K-55 B. K-31

37. Bolt plug
40. Cylinder
42. Locking sleeve
43. Bolt cam follower

Bolt parts for the K-31 that are interchangeable with the bolt parts from the K-55

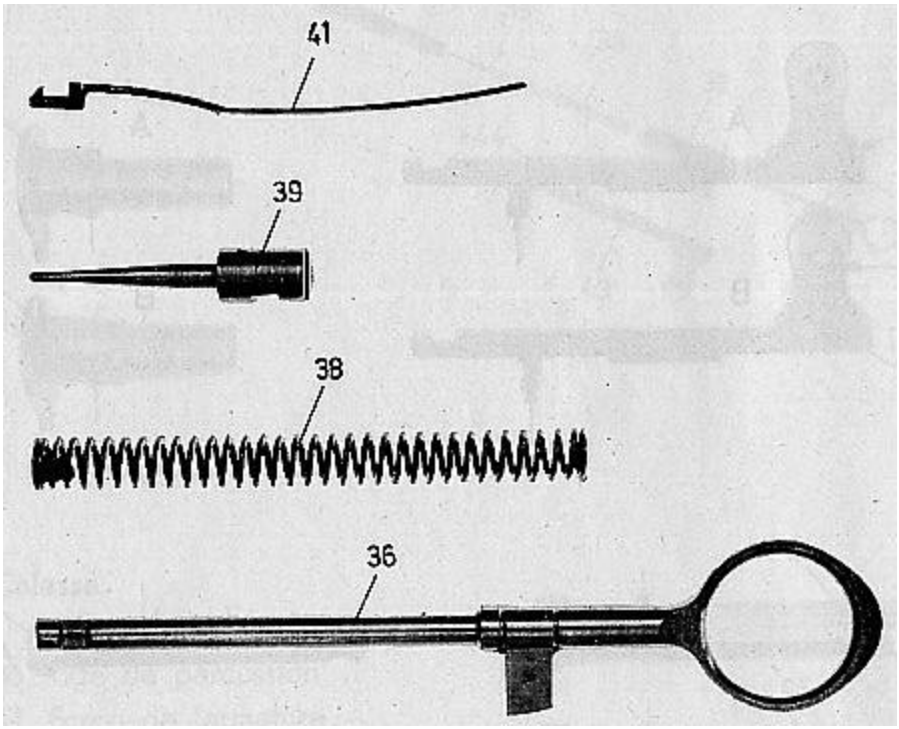


Figure 7

Bolt Parts

36. Cocking piece
44. Firing Pin Spring
45. Firing Pin
41. Extractor

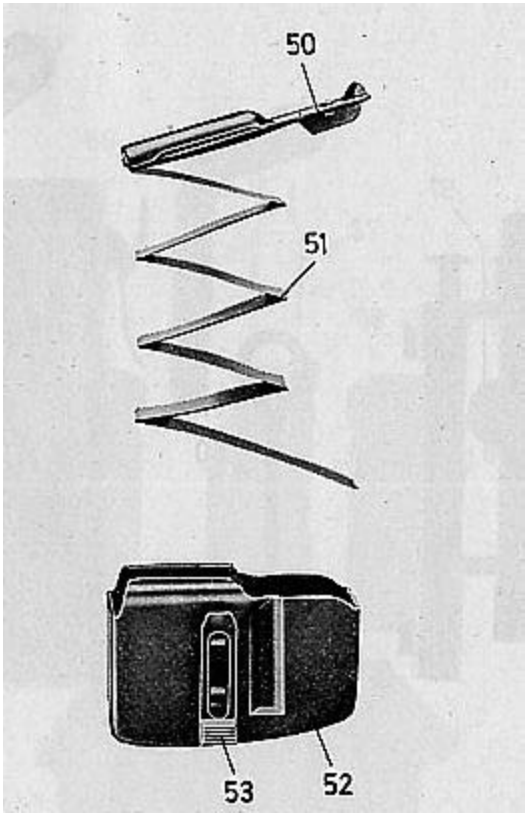


Figure 8

Magazine

50. Magazine Plate
51. Magazine Spring
52. Magazine Box
53. Magazine Stop

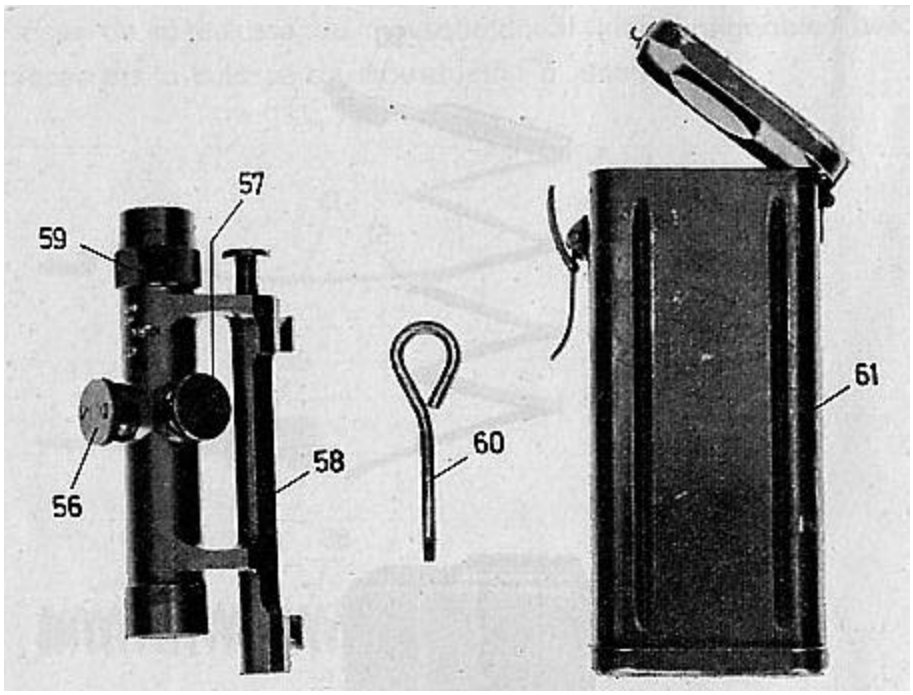


Figure 9

Scope with Case

56. Elevation Knob
57. Windage Knob
58. Scope Mount
59. Focus Knob
60. Screwdriver
61. Scope Case

3. Accessories

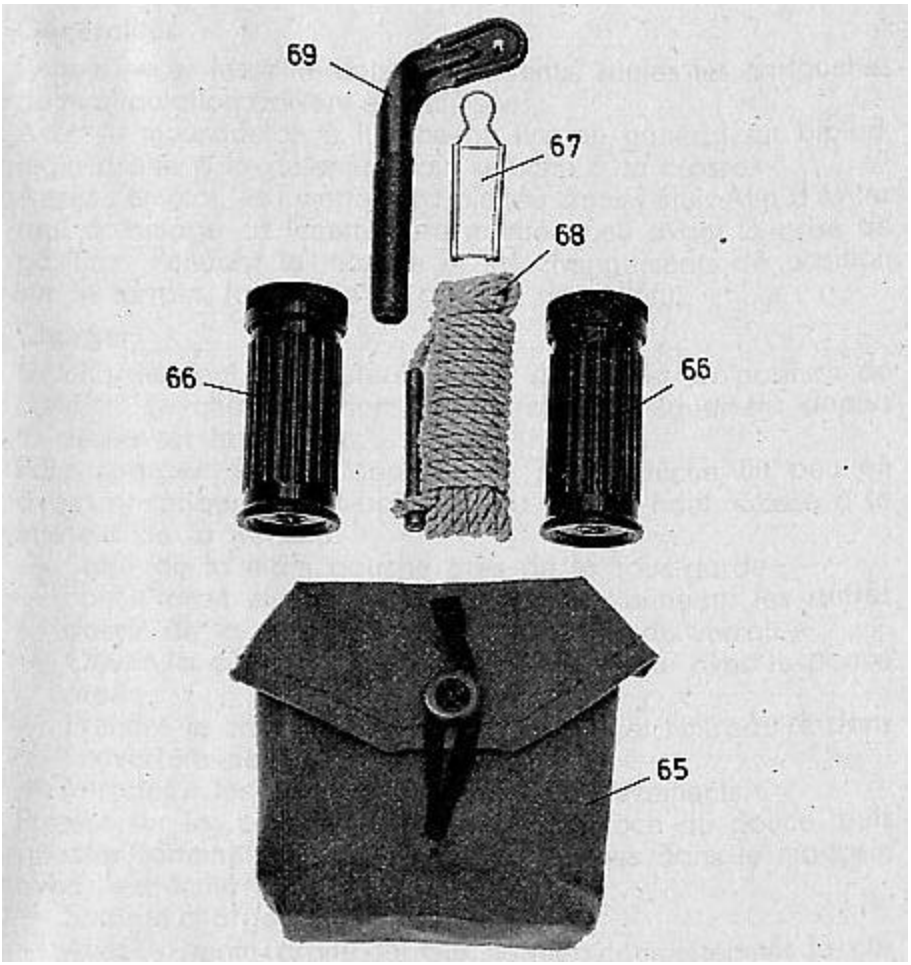


Figure 10

Cleaning Kit

65. Cloth Kit Pouch
66. Grease Tubes
67. Bore Mirror
68. Cleaning Cord
69. Chamber Cleaning Tool

C. Scoped Rifle Operation

1. Overview

Only training cartridges may be used to simulate weapon operation. The scoped rifle should be fired on the bipod, the right hand on the trigger, left on the butt. After use, the scope is to be placed in the scope cover. In order to avoid damaging the scope, the scope should only be mounted prior to assuming firing position. While changing firing position, the scope must be placed in the case.

2. Loading

Loading can be accomplished prone, standing and in combat position. The charger should be inserted diagonally from the right to the left. To load while standing, place the left foot slightly forward, angle the weapon slightly upward with the butt at the level of the hip.

-Place left hand near the trigger guard

-Place right thumb along the left hand side of the cocking ring, the other fingers grasping the Bolt cam follower knob.

-Open the bolt by pressing on the cocking ring with the right thumb.

-Take the charger in the right hand and place it in the loading slot.

-Insert the cartridges in two movements

Push the cartridges downward with the base of the thumb, moving along the thumb toward the bottom. Push the last cartridge in with the tip of the thumb.

-Remove the charger with the right hand.

-With the right hand closed, close the bolt in one swift movement.

-Stow the charger

-Bring the rifle alongside the body if not immediately firing.

3. Reloading

After each shot the shooter may reload by himself and without command.

-Grasp the knob with the right hand and pull energetically towards the rear.

-Close the bolt with one quick movement
-Grasp the butt and insert the index finger into the space in the trigger guard.
-Lower the weapon if the shot is interrupted.

When the bolt will not close due to an empty magazine the shooter may reload the weapon from a loaded charger in the following manner.

-Place the charger into the loading slot.
-Push the cartridges into the magazine
-Discard the empty charger.
-Close the bolt
-As the situation dictates: observe, shoot, or safe the weapon

4. Removing the cartridges

To remove the cartridges the weapon should be secure (safed). Remove the scope and place in case after use.

-Lift the weapon in the same fashion as if loading it while standing.
-Place the left thumb over the loading slot.
-Open the bolt with the right hand and push the ejected cartridge back into the magazine with the right thumb.
-Remove the magazine with the right hand. Lower the weapon with the bolt open and lean it against your body.
-Grasp the magazine and the empty charger in the left hand with the point of the cartridges pointed toward the shooter.
-Transfer the cartridges from the magazine to the charger.
-Stow the loaded charger
-Grasp the rifle vertically in the right hand and insert the magazine in the slot with the left hand.
-Position the weapon as if loading (standing) and verify that the chamber and the magazine are empty.
-Close the bolt and stow the weapon.

5. Inspection

If a superior officer performs the inspection, place the rifle on the shoulder; bolt open, magazine in place. After the inspection is complete, grasp the weapon in the loading position, close the bolt and stow the weapon.

D. Scoped Rifle Assembly and Disassembly

1. Minor disassembly (ordinary cleaning and post firing)

a. Weapon disassembly

-Remove the cartridges

-Remove the Magazine

-Remove and disassemble the bolt

-Grasp the bolt in the right hand. Turn the sear of the Cocking piece between the two slots on the bolt plug.

-Lift the pin from the helical slot on the locking sleeve and push forward to remove the Bolt cam follower from the slot in the Bolt plug.

-With the thumb and middle finger on the locking lugs turn the locking sleeve one-quarter turn and pull the locking sleeve from over the firing pin mechanism.

-Separate the cylinder from the locking sleeve.

-Detain the firing pin spring by turning the Cocking piece until the sear goes in the firing slot. Push down on the spring and remove the firing pin, the spring, the Cocking piece and the bolt plug.

-Remove the extractor with a screwdriver by pushing forward and out. (Do not do this often as repeated disassembly could deform or damage the spring)

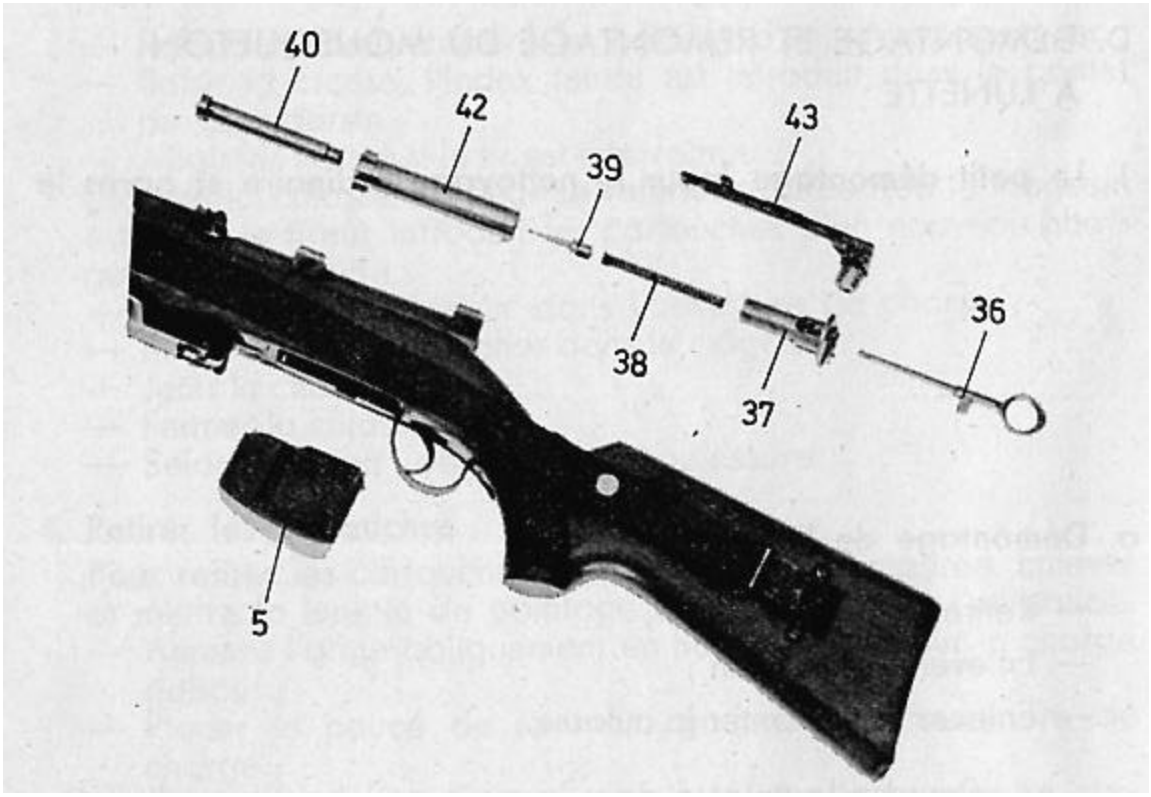


Figure 11

Minor disassembly

a. Magazine
36 Cocking piece
37 Bolt plug
38 Firing Pin Spring
39 Firing pin
40 Cylinder
42 Locking Sleeve
43 Bolt cam follower

b. Weapon Reassembly

-Replace the extractor

-Place the Cocking piece in the firing groove in the bolt plug, replace the firing pin spring, press down on the spring and replace the firing pin.

-Place the sear of the Cocking piece between the safety and firing slots on the bolt plug.

-Slide the cylinder into the locking sleeve.

-With the cylinder and the locking sleeve in the left hand place the middle finger and thumb on the locking lugs. Line up the two ejector grooves (in the cylinder and locking sleeve) and hold the cylinder with the tip of the index finger.

-Insert the firing pin mechanism (the Bolt cam follower slot being on the left) then turn the bolt plug one-quarter turn until the rear end of the helical slot on the locking sleeve is aligned with the Bolt cam follower slot on the bolt plug.

-Place the Bolt cam follower in place by sliding the aft end into the Bolt cam follower slot on the bolt plug. Move towards the rear until the pin that is on the Bolt cam follower falls into the aft end of the helical slot of the locking sleeve.

-Slide the sear on the Cocking piece into the safety slot.

-Replace the bolt.

-Replace the Magazine.

2. Major disassembly (for detailed (deep) cleaning)
    a. Weapon disassembly
    -Remove the cartridges
    -Remove and disassemble the magazine (Section 3)
    -Remove and disassemble the bolt (Section 1)
    -Remove the stock
        -Unscrew the sling loop ring 2-3 turns (do not unscrew completely) Press the sling loop spring and remove the sling loop ring from the stock and the hand guard.
        -Unhook the sling hook
        -Remove the hand guard
        -Turn the lock screw
        -Unscrew the mounting screw
        -Remove the bipod with its fixtures
        -Remove the bipod fixtures
        -Turn the Trigger Plate lock screws
        -Unscrew the trigger plate screws
        -Remove the trigger plate.
        -Remove the barrel from the stock by grasping the barrel at the muzzle.
    b. Weapon assembly
    -Be careful to not to exchange parts that do not correspond to the serial number of the rifle.
        -Place the barrel in the stock
        -Assemble the trigger plate in place
        -Lightly turn the trigger plate screws. Tighten the forward screw first and then tighten the aft screw.
        -Lock the trigger plate screws by turning the locking screws
        -Assemble the bipod and its fixtures
        -Tighten and lock the two mounting screws.
        -Mount the hand guard by placing the ferrule in the slot in the rear sight housing.
        -Replace the sling loop ring and completely tighten the screw. Inspect the play in the spring between the sling loop and the sling loop ring.
        -Attach the sling hook.
        -Reassemble and replace the bolt
        - Reassemble and replace the magazine

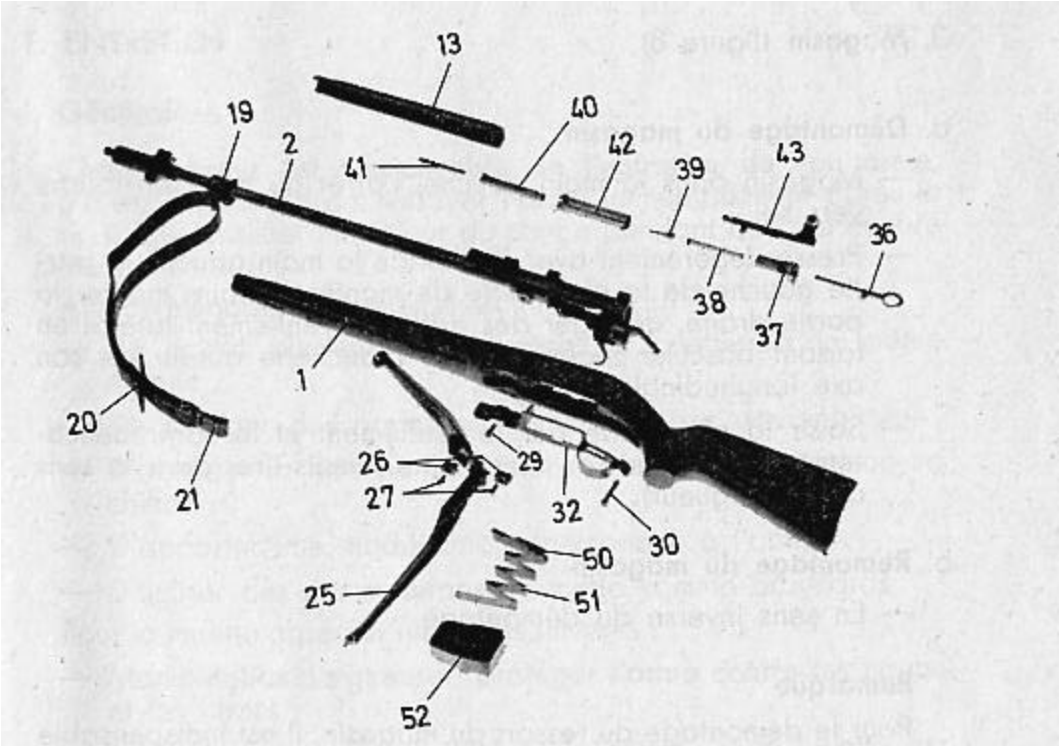


Figure 12

Major Disassembly

1. Stock
2. Barrel
13. Hand Guard
19. Sling Loop
20. Sling
21. Sling Hook
25. Bipod
26. Bipod Fixtures
27. Bipod Fixture Screw
29. Forward trigger plate screw
30. Aft trigger plate screw
32. Trigger Plate
36. Cocking piece
37. Bolt plug
38. Firing pin spring
39. Firing pin
40. Cylinder
41. Extractor
42. Locking Sleeve
43. Bolt cam follower
50. Magazine Plate
51. Magazine Spring
52. Magazine Box

3. The Magazine (figure 8)
    a. Magazine disassembly
    -Take the magazine in the left hand with the magazine stop turned toward you.
    -Press lightly with the left index finger on the left side of the magazine plate in such a way that the right part. Remove the lateral bulge from the tabs by rocking the plate back and forth along its longitudinal axis.
    -Grasp the plate by the bulge and carefully remove it as well as the spring. (Never pull along the length of the magazine.)
    b. Reassembly
    -Perform disassembly in reverse order.
    NOTE
    -In order to correctly disassemble the spring, it is important to proceed as indicated in section 3a. To remove it otherwise will force the spring and will break the areas riveted to the plate.

E. Maintenance

I. Overview

Each shooter is responsible for the maintenance of his weapon.

If it is impossible to clean the weapon immediately after shooting, the inside of the barrel should be greased while it is still warm.

In order to properly care for your weapon, the following is prohibited

-Carrying more than one rifle on one shoulder

-To load non-covered/protected (packaged) weapons in a vehicle

-To obstruct the muzzle with grease or a patch

-To make any modifications whatsoever to the weapon.

-To use a scoped rifle as a stretcher

Observe the following points for the scope

-Be careful while handling; protect the weapon from knocks and impacts

-Protect the scope from moisture and dirt. If the scope should get wet it is permissible to dry it inside, but not close to a furnace. The cover should be open.

-Clean the lens of the eyepiece with a soft cloth or a chamois, having beforehand removed all dust with a brush

-Lightly lubricate the metallic parts; for optics, in no circumstance use gun cleaning grease or oil.

-No repair should be made by front line troops. During peacetime, defective scopes should be sent to the arsenal. During wartime, to the rear lines.

-Open the case cover for storage

II. Cleaning

Cleaning will be performed dependant on the degree of dirtiness of the weapon.

1. Everyday Cleaning
   Daily cleaning is performed when the weapon has only been lightly soiled from daily use. It includes:
   -Removing the cartridges
   -Exterior cleaning of the weapon, then a light oiling
   - Inspection of weapon function
2. Cleaning after shooting
   Cleaning after shooting is performed after each shooting session; it includes:
   -Removing the cartridges
   -Weapon disassembly per Section D1
   -Cleaning and greasing of the barrel and the chamber
   -Cleaning and greasing of the bolt, receiver and magazine.
   -Weapon reassembly
   -Inspection of weapon function
3. Deep cleaning
   Deep cleaning is performed after a period of heavy use; it includes:
   -Removing the cartridges.
   -Major disassembly per Section D2
   -Cleaning and greasing of the barrel and the chamber
   -Cleaning and greasing of all other parts
   -Weapon Reassembly
   -Inspection of weapon function
4. Barrel and Chamber cleaning
   The cleaning of the barrel is accomplished through the use of the cleaning cord after having removed the bolt and the magazine. The locking sleeve should be reinserted to protect the shell ejector from snagging on the cleaning cord. The cleaning cord is inserted through the receiver. The bronze brush should be well oiled/greased and in a good enough condition to penetrate to the bottom of the rifling; if it becomes too thin place a small piece of wood alongside the brush. The cord should be pulled by two persons, precisely aligned with the

axis of the center of the barrel; after each pass, the brush should not completely exit the muzzle. After having loosened the powder residue in this fashion, it is necessary to roll a patch around the cord in front of the brush and clean the barrel again until the patch comes out clean. The barrel is then inspected again with particular attention being paid to the cleanliness of the rifling, then grease. To perform this, roll a well-greased patch around the cord in front of the brush then make another pass through the barrel with the cord. It is permissible as well to use as cleaning rod.

The chamber should be cleaned with the chamber-cleaning tool. It is necessary to loosen and remove the powder residue prior to greasing the wire mesh. A patch is then wrapped around the chamber-cleaning tool and used to remove the balance of the residue and then the chamber is greased in the same fashion with a greased patch after inspection. If the chamber-cleaning tool is not large enough to clean the chamber, it may be widened with a screwdriver.

5. Cleaning of Metal Parts

   The metal parts of the weapon should be wiped down with a cloth. It is necessary to remove the old solidified grease with fresh grease and clean the cavities and hard to reach places with small pieces of wood. Once the cleaning is complete, wipe down the parts with a clean, grease impregnated cloth. Grease in particular the part contact surfaces and especially the Bolt cam follower and the locking sleeve. **The firing pin and the firing pin channel should not be greased**.

6. Cleaning of wood parts

   The wood parts of the scoped rifle, the stock and the hand-guard should be cleaned with a dry cloth.

III. Grease (lubrication) instructions

Part of the Weapon	Depot Greasing		Combat Greasing	
	Summer	Winter	Summer	Winter
Barrel and Chamber	Grease A	Grease A	---	---
All unblued and brass parts	Grease A	Grease A	---	---
Trigger and Firing Mechanisms	Ungreased	Ungreased	---	---

Table of lubricant resupply:
Grease for automatic weapons Art. No 164 116 (NSA 9150-335-4809)

IV. Cold Weather Maintenance

The ejector and the trigger mechanism should be ungreased during the indicated season. If needed, part freezing (sticking) may be avoided by applying weapon-cleaning oil (NSA 9150-335-4606).

F. Understanding of Rifle Function

I. Locking and unlocking the bolt

1. Locking

At the time of forward bolt motion, the locking sleeve is lightly turned to a position between the diagonal surfaces of the locking lugs. In the same position, the Bolt cam follower pin is free from the aft pocket of the helical groove. The Cocking piece sear will be positioned aft of the sear lip. The firing pin spring remains compressed. If we continue to push the Bolt cam follower forward, the locking plate pin will cause the locking sleeve to turn. The locking lugs will rotate in front of the supports in the receiver and the bolt is locked. An additional locking lug is found aft of the locking sleeve. This will also engage a support at the time of locking sleeve rotation. When the bolt is closed, the top cartridge in the magazine is pushed forward and the extractor claw penetrates the throat of the locking sleeve.

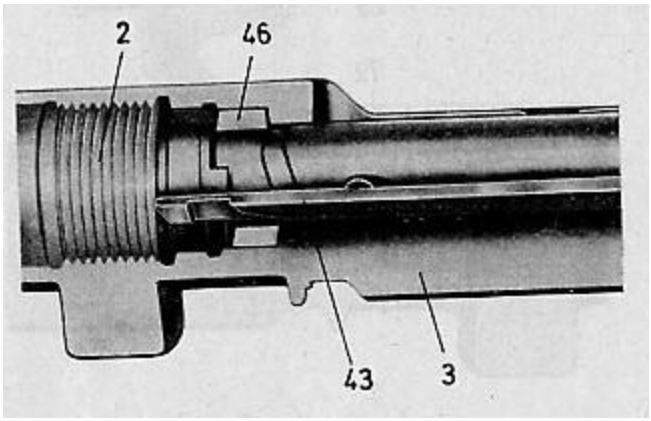


Figure 13

Locked Bolt

2 Barrel
3 Receiver
43 Bolt cam follower
46 Locking Lug

2. Unlocking
    a. When the Bolt cam follower is pulled backwards by the handle, the pin on the locking plate slides in the longitudinal slot in the cylinder and at the same time along the length of the helical slot in the locking sleeve.
    The pin arms the firing mechanism by pushing backward the firing pin and the Cocking piece and by compressing the spring. The aft pocket of the helical slot in the locking sleeve keeps the pin the Bolt cam follower from being pushed forward by the firing pin spring. The firing weapon thus remains armed.
    b. At the time the locking sleeve turns the locking lugs are released from behind the Support inside the receiver and are placed in the corresponding guide slots; the bolt is unlocked and thus may be pulled backward up to the bolt stop. At the same time the extractor extracts the shell that is ejected at the time it hits up against the ejector. The top cartridge is then raised by the magazine spring and placed ahead of the cylinder.

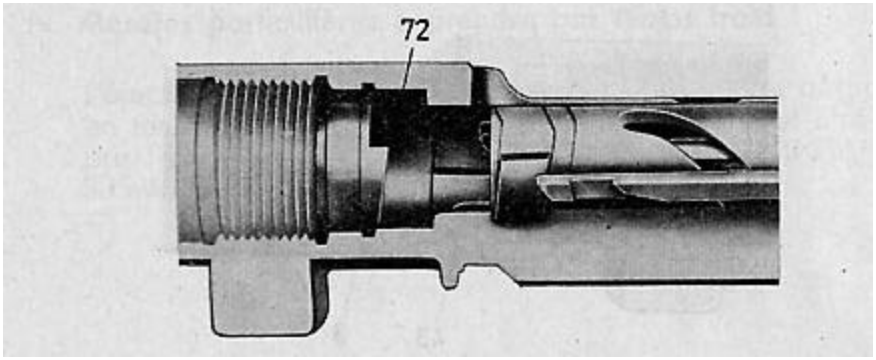


Figure 14

Unlocked Bolt

72 Receiver support

II. Trigger mechanism and weapon discharge

1. Start position
When the weapon is ready to fire, the bolt is closed and locked; the trigger mechanism is then armed.

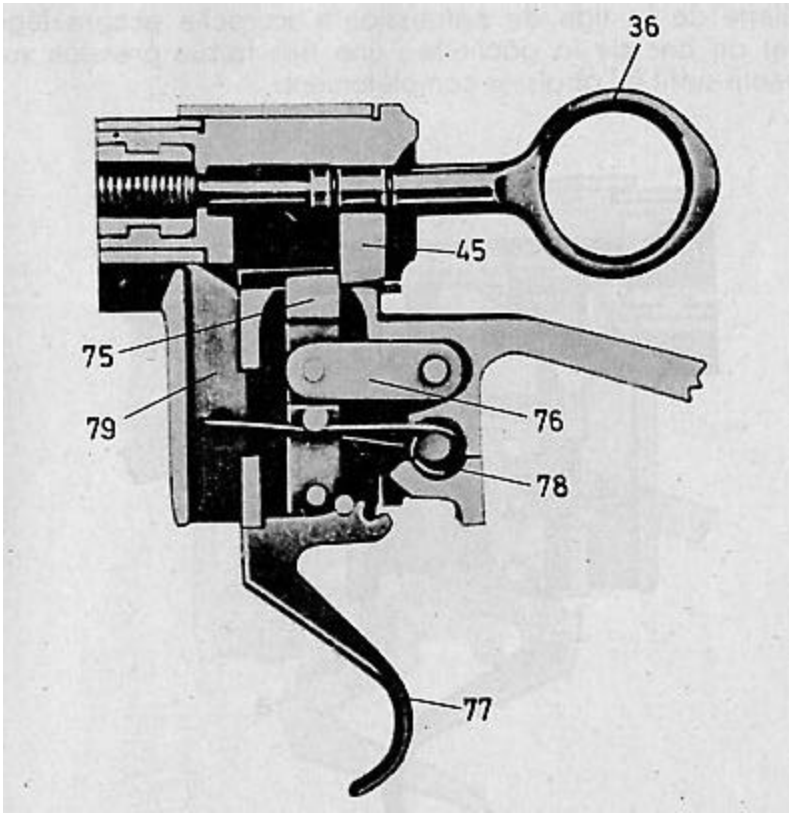


Figure 15

Start Position, Trigger Mechanism

36 Cocking piece
45 Cocking piece Sear
75 Sear
76 Sear Lever
77 Trigger
78 Sear Spring
79 Ejector

2. Stop position

The pressure exerted by the trigger has the effect of lowering the sear; this movement is restricted by the aft trigger boss that stops against the receiver housing (Stop Point)

The Cocking piece sear is still lightly hooked to the lip of the sear; a very weak pressure is all that is required to lower the sear completely.

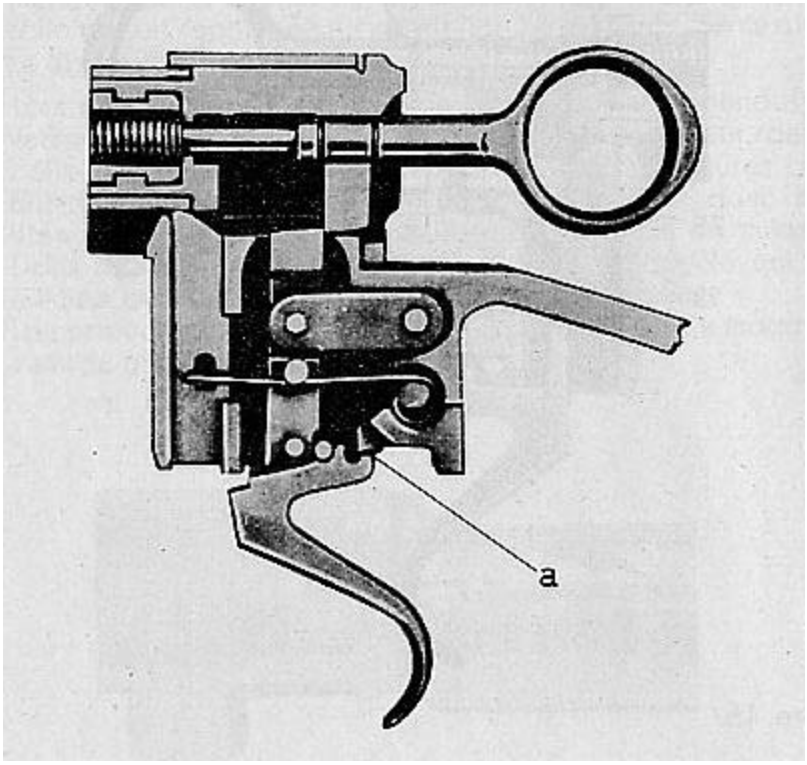


Figure 16

Trigger Mechanism; Stop Point

a. Stop surface

3. Position after discharge
At the moment the lip of the sear frees the Cocking piece sear, the Cocking piece under pressure from the firing pin spring is thrown forward. The firing pin hits the primer and ignites it.

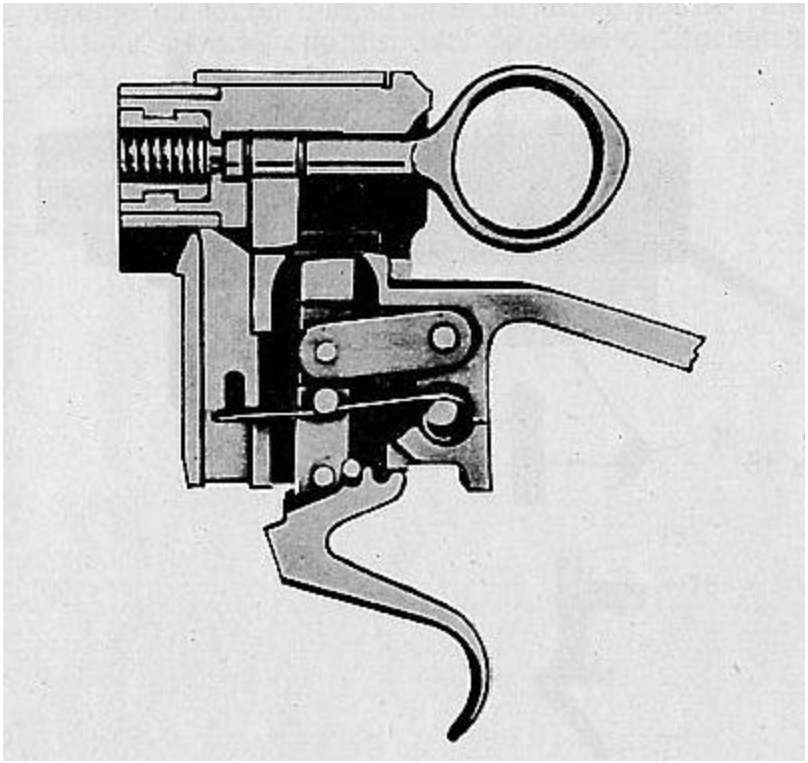


Figure 17

Trigger Mechanism, position after discharge

III. Safety

When the cocking ring is pulled back and turned to the right, the sear of the Cocking piece should lodge in the safety slot in the bolt plug. This slot is a shorter slot than the firing slot; it is because of this that the point of the firing pin cannot extend past the head of the cylinder. All contact with the cartridge primer is thus restricted. The Cocking piece sear is then placed in a pocket that keeps the bolt from accidentally opening.

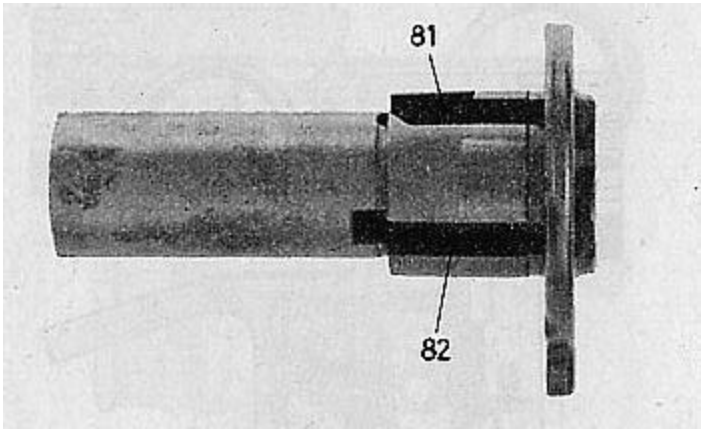


Figure 18

Bolt plug

81. Safety Slot
82. Firing Slot

G. Instructions for replacing parts and to restore to working condition

1. Trigger mechanism
   a. Disassembly
      Unhook the trigger spring. Remo ve the trigger mechanism. Remove the trigger spring with a screwdriver. Remove the ejector.
   b. Reassembly
      Mount the ejector with the lip forward. Replace the trigger spring in such a way that the right end of the spring pushes the ejector upwards. Replace the trigger mechanism. Hook the free end of the spring.

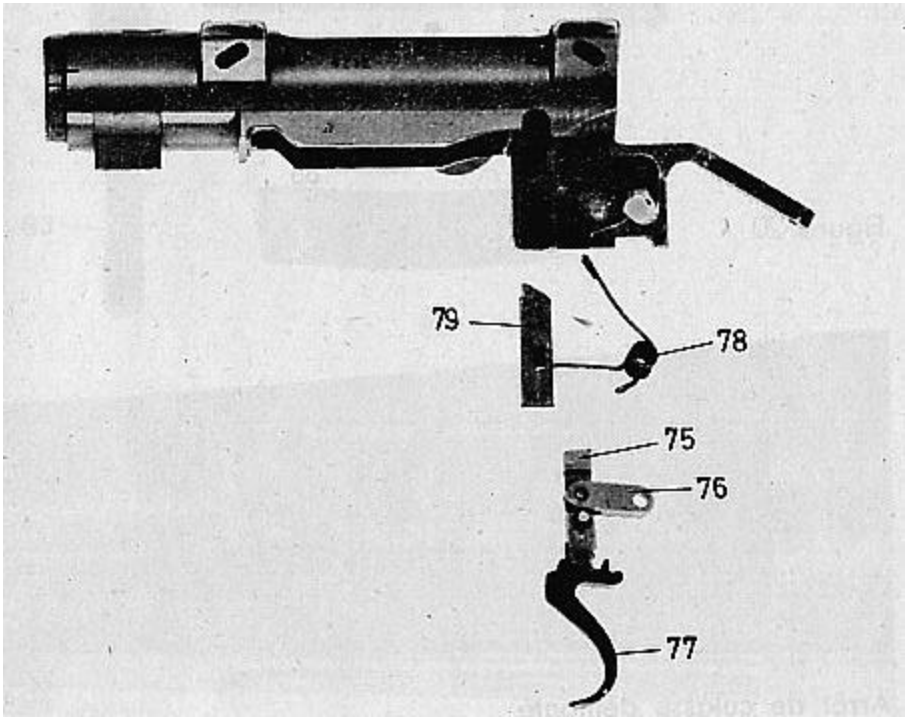


Figure 19

Disassembled trigger mechanism

75 Sear
76 Sear lever
77 Trigger
78 Trigger Spring
79 Ejector

2. Bolt Stop
   a. Disassembly
      Pivot the bolt stop out of its slot and lift it out at the pivot with a screwdriver.
   b. Replace the bolt stop with the spring in place.

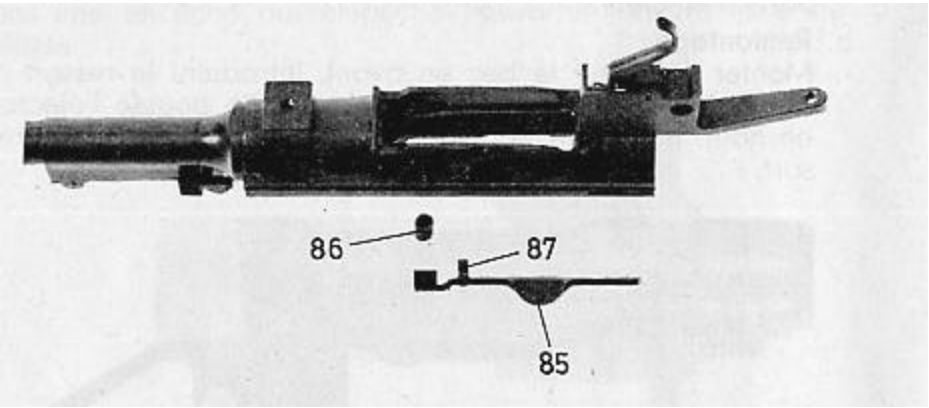


Figure 20

Disassembled Bolt Stop

85 Bolt Stop
86 Bolt Stop Spring
87 Pivot pin

3. Rear Sight
   a. Disassembly
      Drive out the sight pin. Lift out the sight leaf. Remove the slide; the slide stop and the slide stop spring. Remove the sight main spring to the front.
   b. Reassembly
      Assemble the sight main spring with the rounded end to the rear. Replace the slide and slide spring on the sight leaf. Mount the sight leaf and re-insert the pin.

Fig

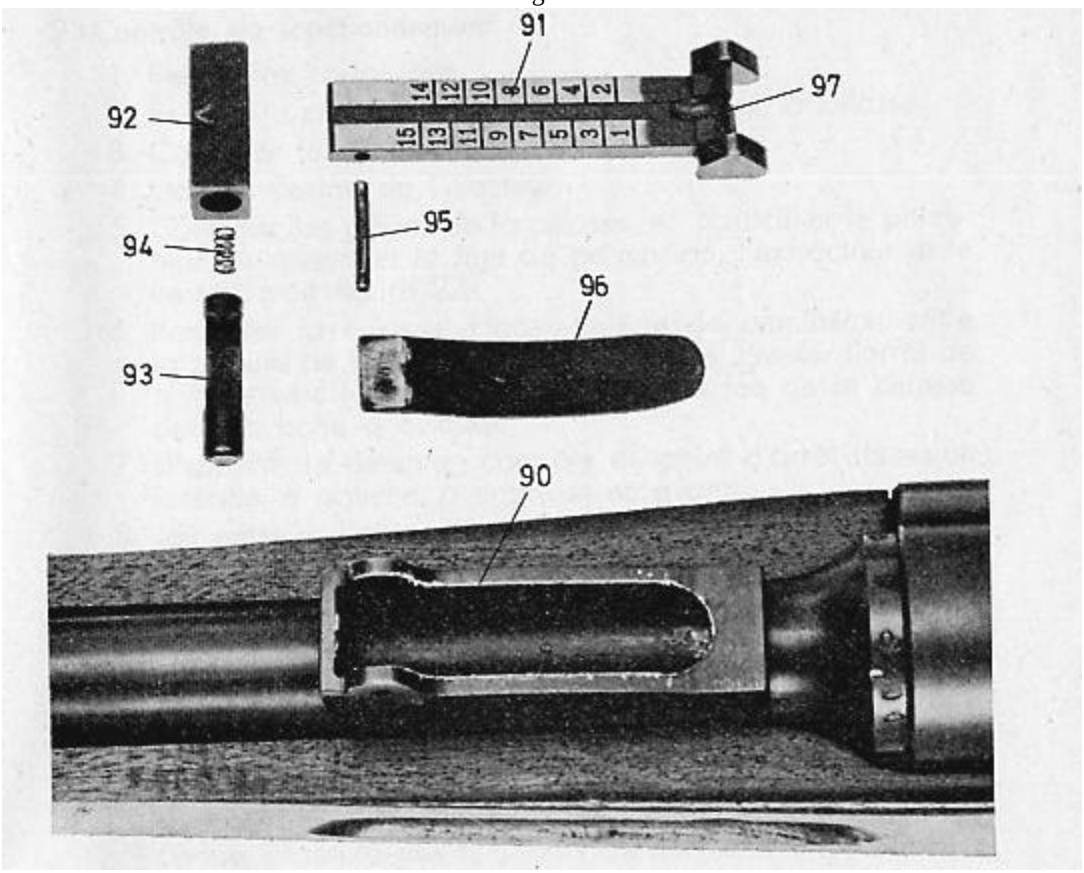


Figure 21

Disassembled Rear Sight
90 Sight Housing
91 Sight Leaf
92 Sight Slide
93 Slide Stop
94 Slide Stop Spring
95 Sight Pin
96 Sight Main Spring
97 Sight Slot

H. Inspection and adjustments
1. Overview
The purpose of functional inspection is;
-To identify malfunctions
-Verify function after repair
-Verify function
2. Function Inspection
    1. Remove the cartridges
    2. Remove the bolt and the magazine, Disassemble the bolt
    3. Inspect the barrel
    4. Check the flexibility of the ejector
    5. Inspect bolt part, specifically the firing pin, the firing pin spring, and the Cocking piece, the extractor and the locking plate. (See figure 22)
    6. Reassemble the bolt. Place the sear of the Cocking piece between the firing slot and the safety slot. Press the bolt stop downward. Inspect the free play of the bolt within the receiver.
    7. Trigger Mechanism. Inspect the stop point (lateral pressure, to the left, to the right and forward)
    8. Inspect play between the locking plat pin and the firing pin (with firing pin mechanism disarmed) (see figure 23).
    9. Inspect bolt stop function
    10. Check condition of the front and rear sights.
    11. Check Magazine engagement.
    12. Overall exterior condition (hand guard, Sling loop, bipod, sling loop spring) Grease per recommendations.
    13. General condition of the scope. The optics, ease of assembly on the weapon. Free movement of the windage and elevation knobs.

Detailed inspection of bolt parts mentioned in point 5 of functional inspection.

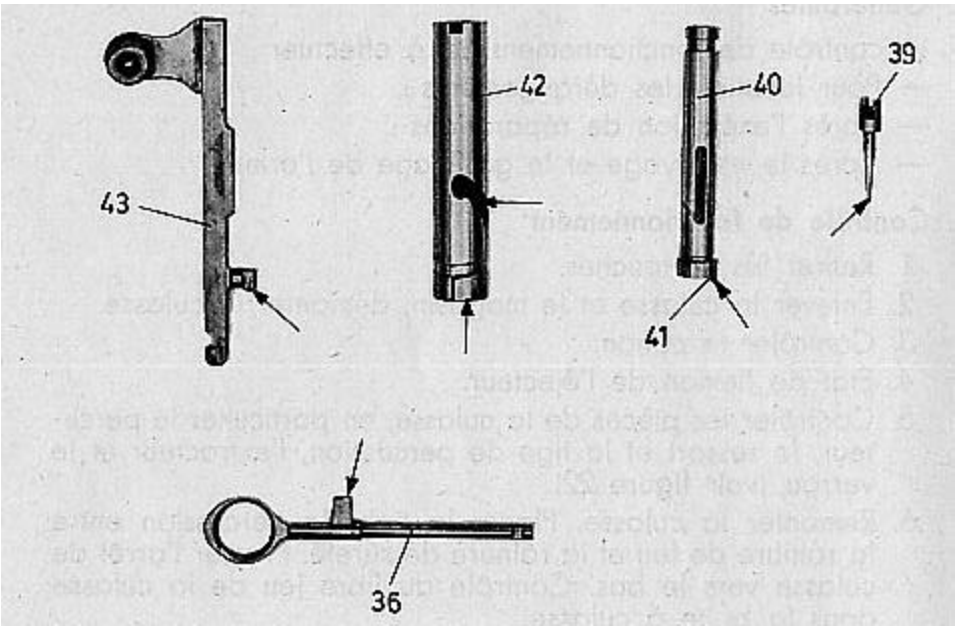


Figure 22

Bolt Parts

36 Cocking piece
39 Firing Pin
40 Cylinder
41 Extractor
42 Locking Sleeve
43 Bolt cam follower

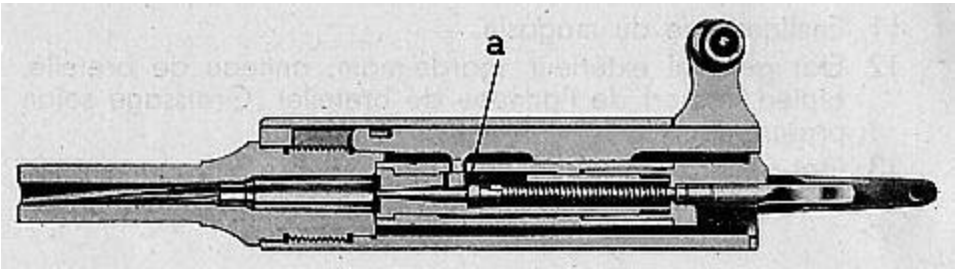


Figure 23

Play between the firing pin and the Bolt cam follower pin
(point 8 of functional inspection)

3. Release point adjustment
   a. Overview
      If the release point is too weak (eventually more than the release point) or if the mechanism pulls or drags, try to adjust it in the following manner:
      Change the Cocking piece or the trigger mechanism.
      The lip on the cocking piece sear or the lip of the sear could be worn out or broken.
      If the release point cannot be adjusted by changing these two parts, the gunsmith is allowed to carry out a modification.
   b. Adjustment
      Release point too weak:
      Lower the pin slot at point a (figure 24) (with the help of an emery cloth wrapped around a round file or a round piece of steel)
      Release point pulling or dragging:
      Remove material from point b (figure 24) of the receiver housing with an emery cloth or an oilstone.
      Modifying the lip of the sear or the lip of the Cocking piece sear or to weaken the firing pin spring or the trigger spring is not allowed (to prevent firing accidents)

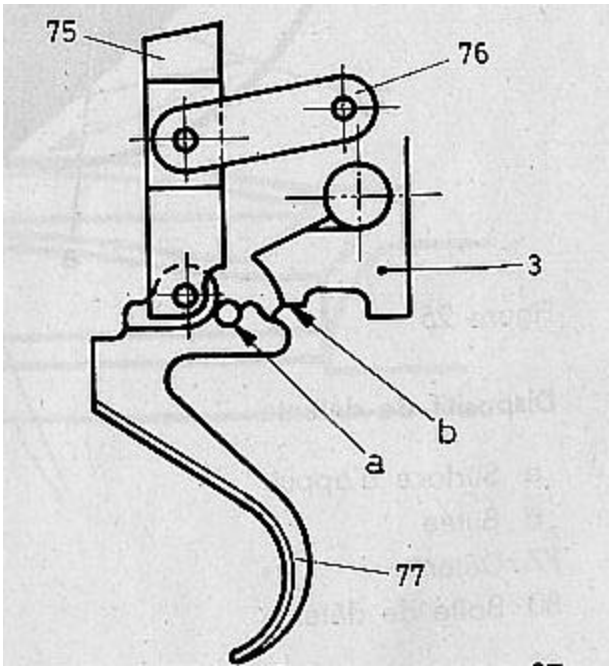


Figure 24

Trigger Mechanism

3 Receiver
75 Sear
76 Sear lever
77 Trigger

38
When the trigger is pressed forward, the Cocking piece is freed;
File down the forward support surface of the trigger at point a (figure 25)

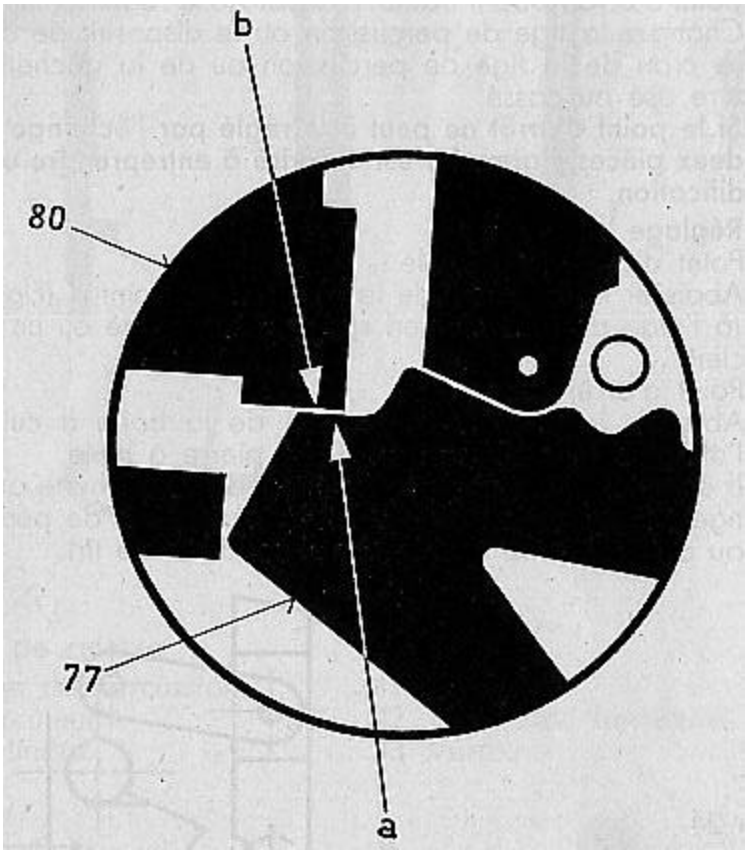


Figure 25

Trigger Mechanism

.a Support surface
.b Stop
77 Trigger
80 Trigger housing

4. Special adjustments
    a. Replacing the extractor
    There should be no longitudinal play in the extractor post replacement.

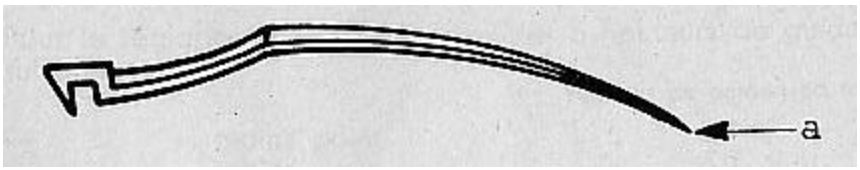


Figure 26

Extractor

a. Shorten if point a is too long
   Add material if point a is too short

b. Adjusting lateral play in the rear sight leaf
   Replace the rear sight pin. Eventually the sight housing will need to be retightened.

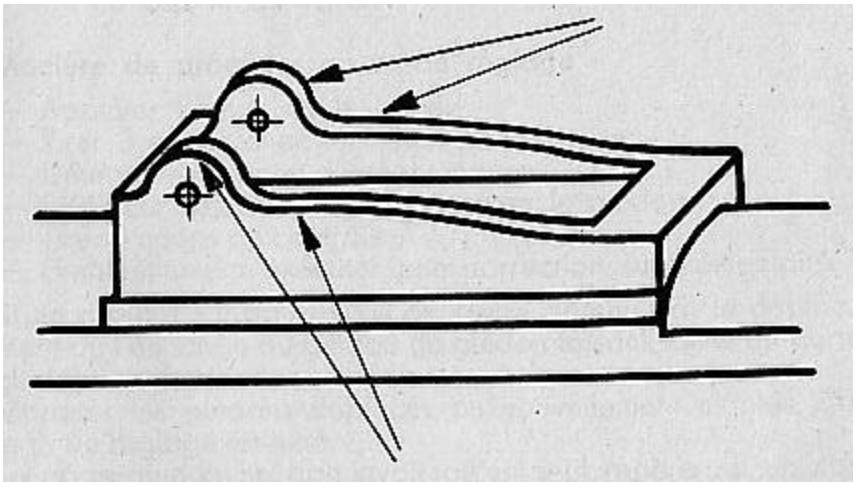


Figure 27

Rear Sight Housing

J. Sight (shot) adjustment

1. Overview
   The weapon is adjusted to 0 at 300 m
2. Shot adjustment using rear and front sights
   To adjust shot height the following 5 different front sights are used.

		Front Sight Height in mm
-.	Minus point	5.9
-	Minus	6.2
No Mark	Normal	6.5
+	Plus	6.8
+.	Plus point	7.1

   Front Sight width 2.2mm. Front sights from the K-31 cannot be used.

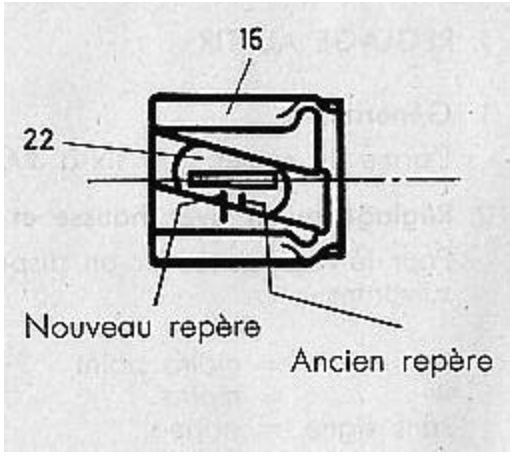
   Changing one front sight for another in order of height moves the impact point an average of 16cm at 300m.

   Moving the front sight up or down 1 mm moves the impact point an average of 12cm at 300m.

3. Method for making an adjustment shot
   -Support the weapon on the bipod
   -Fire 3 shots at the same aim point
   -Determine the average impact point
   -Move the front sight to achieve the desired impact point. Change the front sight if necessary.
   -Fire 3 inspection shots
   -Adjust as necessary

   If an acceptable result cannot be achieved through adjustment or changing of the front sight (the front sight is protruding from the front sight housing) return the weapon to the arsenal.
   Mark the moved or replaced front sights when sighting in is completed.
   The front sight housing should not have more than one sighting mark. If a new mark must be made, mark out the old one with a hammer.
   Small front sight movements that are due to daily use need not be marked.

(New Mark)



(Old Mark)

Figure 28

Front Sight Marking

16 Front Sight Housing
22 Front Sight

4. Scope Adjustment
Scope adjustment can only be performed by the person to which the weapon has been issued or the gunsmith.
If the point of impact while shooting on the bipod target A at 300m height 3 windage 0 during no wind and normal visibility is outside the black, the scope should be adjusted.

Scope adjustment is performed in the following fashion:
- Adjust the focus
- Align the optical axis with line of sight (rear to front sight)
- Fire three shots
- Correct for windage at distance
- Fire three inspection shots
- Adjust accuracy as required

If the average impact point is at the center of the black the elevation knob should be firmly held. The screws should be loosened about one turn with the screwdriver that is found in the case, the knob should be turned to 3 on the scale and the screw tightened.
To adjust windage, proceed in the same fashion, then turn the windage knob to 0.

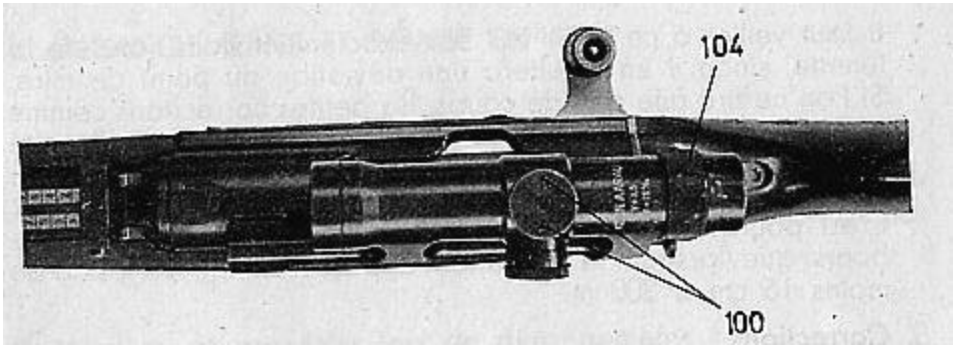


Figure 29

Adjusting the Scope for elevation
100 Conical head screw for adjusting elevation
104 Focus knob

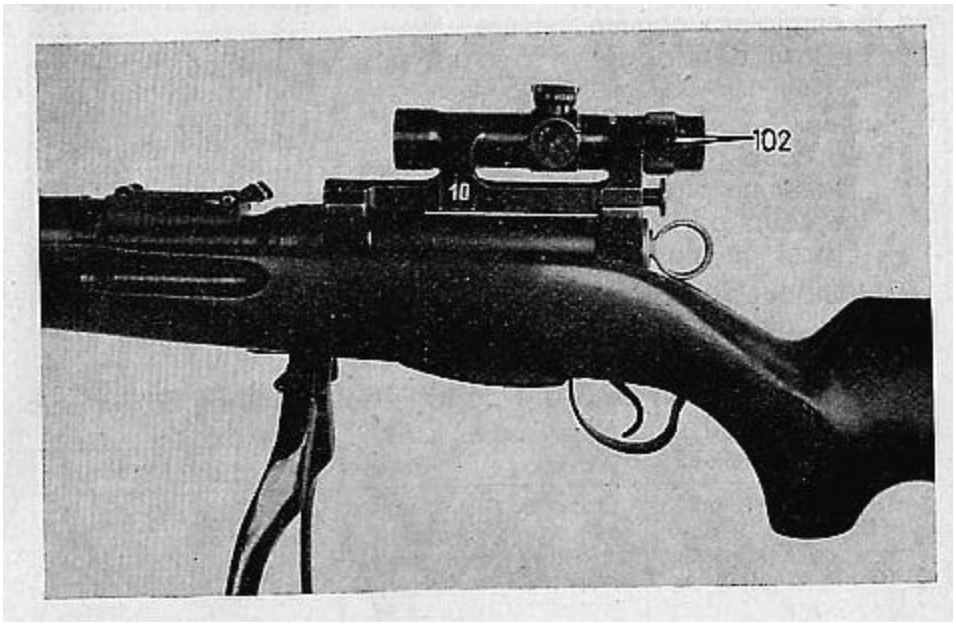


Figure 30

Windage Adjustment
102 Conical head screw for windage adjustment

Ensure that the eye is exactly in line with the axis of the scope. If not, the result will be a deviation in the viewpoint.
If few shots are fired, small corrections such as a side click, are not 100% effective because at 300m the shot theoretically can move 7.5cm and the total spread of the weapon is around 20 cm. It is for this that it is not required for general adjustment, to adjust the knobs unless the deviation exceeds 0.5 0/00 or is at least 15 cm at 300m.

5. Corrections

For corrections the following instructions must be followed;
Windage
The shot goes to the left:
-Turn the windage knob counter clockwise
The shot goes to the right
-Turn the windage knob clockwise
We use as a measure
1 adjustment line in 6 clicks indicates a correction of 45cm over 300m or 1.5 0/00
Elevation
The shot goes high
-Place a small shim in the elevation knob
The shot goes low
-Place a larger shim in the elevation knob
The elevation knob does not have a stop notch as compared to the windage knob.
We use as a measure
-A correction of 3 or 4 shot angle around 35cm higher at 300m.

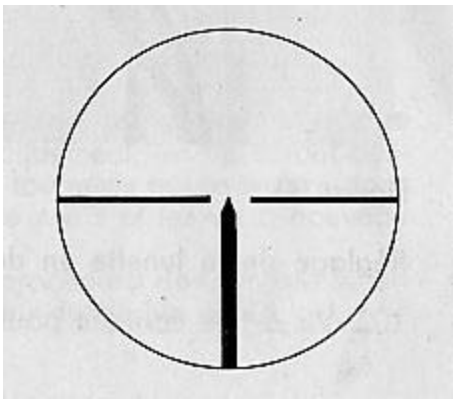


Figure 31

Reticle
Width of the vertical line 2 0/00
Width of the horizontal line 1 0/00
Horizontal Line Gap 8 0/00

K. Malfunctions and repairs

1. Overview
   The majority of malfunctions are caused by poorly executed loading movement, by poor maintenance or by insufficient inspection.

2. How to proceed when a malfunction occurs
   -Reload and fire again
   -If the weapon still does not function, remove the cartridges
   -Find the malfunction

3. Feeding malfunction

Malfunction	Cause	Cure
The cartridge is jammed or is not inserted completely into the chamber	Magazine Spring is deformed or broken	Reform or change magazine spring
	Magazine or tabs are bent	Reform the tabs
The magazine is not locked	The magazine stop does not close	Repair the notch in the magazine plate

4. Firing malfunction

Malfunction	Cause	Cure
The primer is only lightly impacted	The point of the firing pin is deformed or broken	Change the firing pin
	Firing pin spring is weak or broken	Change the firing pin spring
	The bolt guides are blocked and the firing pin strikes against locking plate pin	Clean the bolt guides

5. Ejection malfunction

Malfunction	Cause	Cure
The shell stays in the chamber or is jammed between the bolt and the receiver	Extractor weakened or broken	Adjust the extractor
	The ejector does not function	Change the extractor (figure 26)
		Disassemble and reassemble the ejector and the trigger spring

6. Specific malfunctions

Malfunction	Cause	Cure
Poor shot accuracy	Scope damaged or loose	Repair only by 3rd echelon reserve
	The front sight housing is loose	Repair only by 3rd echelon reserve
	The Front sight is loose	Lightly peen the edges of the front sight groove in the front sight housing.
	Damaged front sight	Change the front sight
	Poor engagement of the rear sight slide stop	Change the slide stop or the slide stop spring
	Damaged rear sight leaf	Equal out both sides or change the sight leaf
	Blocked rear sight slide	Disassemble and equalize
	Lateral play in the rear sight leaf	Adjust lateral play (figure 27)

Malfunction	Cause	Cure
Malfunctions during loading	The Bolt stop does not work	Equalize or change the bolt stop
		Change the weak or broken spring
	The bolt is jammed, the helical slot in the locking sleeve is damaged	Equalize with a oilstone or change the locking sleeve
	Locking plate bent	Straighten or change the locking plate
	Magazine tabs are deformed	Straighten the tabs
Malfunctions of the trigger mechanism	The trigger rubs against the trigger plate or the stock	Retouch the rubbing surfaces of the trigger plate or the stock
	The trigger spring is weak or broken	Change the trigger spring
Defects in accessories	Bipod deformed or broken	Straighten or replace the bipod
	Sling loop spring or screw is damaged	Change the sling loop spring
	The sling loop spring is jammed in the mounting	Lightly hone the mounting
	Sling loop screw is broken	Change the screw

L. Safety Instructions

Every weapon should be considered loaded if the shooter has not verified that the chamber and the magazine is empty

Cartridges should be removed before each disassembly and before handling and aiming exercises.
Aiming at a person is not permitted.
A soldier should not carry marking and combat munitions on his person at the same time.

Before firing exercises with combat munitions, or blanks, the barrel should be inspected and eventually clean it. During peacetime a scoped rifle must not be unsafed unless it is pointed at a target. Before leaving the shooting position the weapon should be safed. The shooter does not have the right to move with a cocked, loaded rifle.

After firing exercises, the cartridges should be removed, store the remaining munitions and communicate to the troop of the instructions pertaining to munitions

When shooting from a booth, the weapon should not be loaded until after entering the booth and should be completely unloaded before leaving.

When firing in combat, shooting over the head of troops or across the field is not permitted except in the following circumstances:

-When firing over troops or across the field the troops should be a more the 100m from the weapon and in all circumstances at a lesser distance than that of the target.
-When firing over the troops, the trajectory should pass at least 5m over the troops unless they are found at a dead end angle.
-When firing across field the line of fire should be at a space of two arms lengths (measured from the shoulder by the shooter), to the left or the right of the closest neighboring troops.

Firing with marking munitions is prohibited to distances of less than 30 meters

M. Final Instructions

The above-contained regulation is current as of 1 December 1967. It supercedes all other related instructions.

Chief of Instruction
Corps Commander Col. P. Hirschy